



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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November 24, 2014

Bret Walters
Chief, Planning and Environmental Branch
Charleston District, U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

**SUBJECT: Draft Integrated Feasibility Report and Environmental Impact Statement for
Charleston Harbor Post 45, Charleston, South Carolina – CEQ# 20140294**

Dear Mr. Walters:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced Draft Environmental Impact Statement (DEIS) in accordance with its responsibilities under Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The Charleston District of the U.S. Army Corps of Engineers (Corps) and the South Carolina State Port Authority (SPA) propose navigation improvements in Charleston harbor and associated river channels. These improvements consist of deepening the entrance channel, extending the entrance channel, deepening the inner harbor, enlarging the existing turning basin (to include North Charleston Terminal turning basin) and placing dredge material in existing confined disposal facilities and the Ocean Dredged Material Disposal Site (ODMDS). These improvements are proposed to accommodate larger post-Panamax ships that require deeper depths.

The stated purpose of the Post 45 is to implement navigation improvements to increase efficiency and accommodate increasingly larger ships (especially container ships). The Corps states that "existing dimensions of the navigation channels place constraints on deeper-drafting containerships, which result in reduced efficiency and increased costs. Navigation and safety considerations include three main problems: insufficient Federal channel depths, difficult currents, and restrictive channel widths and turning basins...Larger ships currently experience transportation delays due to insufficient Federal channel depths."

The Corps evaluated six alternatives that considered deepening to various depths of the upper harbor and the lower harbor. Three alternatives were eliminated due to low economic net benefits. The remaining three alternatives evaluated were identified using a combination of two numbers separated by "/". The first number represents deepening of the lower harbor (in feet) and the second number represents deepening the upper harbor (in feet). Thus, the three remaining alternatives were 48/48, 50/48 and 52/48. After further evaluation, the 48/48

alternative was eliminated because it had smaller net economic benefits when compared to the 50/48 and 52/48 alternatives.

As stated in the DEIS, the Corps' primary decision criteria for identifying the tentatively selected plan (TSP) follows the National Economic Development (NED) plan, which is based on maximizing net benefits while remaining consistent with the Federal objective protecting the nation's environment (pg 3-46). The Corps initially identified the 50/48 alternative as the TSP or preferred alternative; however, the SPA requested the Corps identify the 52/48 alternative as the Locally Preferred Plan (LPP), which requires the SPA to pay for the difference in cost between the LPP and the TSP (\$75M). Ultimately, the Corps determined that the 52/48 alternative (LPP) would be the TSP (i.e. preferred alternative). However, the Corps states, "The NED Plan presented in the final document could be the 50/48 alternative, 52/48 alternative, or an alternative between or outside those depths if justified by additional analysis."

As stated in the DEIS, the TSP or preferred alternative consists of the following navigation improvements: deepening the existing entrance channel from a project depth of -47 to -54 feet, extending the entrance channel approximately three miles seaward from the existing location, deepening the inner harbor (to the Wando Welch facility on the Wando River and the New Navy Base Terminal on the Cooper River, and -48 feet for the reaches above the new Navy Base Terminal to the North Charleston facility on the Cooper River) from the existing project depth of -45 to -52 feet, enlarging the both the existing turning basins to 1800 feet diameter at the Wando Welch facility and the new SPA terminal to accommodate Post Panamax Generation 2 and 3 container ships, enlarging the North Charleston terminal turning basin to 1650 foot diameter to accommodate the Post Panamax Generation 2 container ships, and placing dredged material and raising dikes at the existing upland CDF facilities and placing dredge material in the existing ODMDS (to include expansion of the ODMDS).

EPA has substantial concerns regarding the proposed wetlands mitigation, monitoring and adaptive management plan, air quality and the environmental justice (EJ) analysis. Below is a brief overview of our primary concerns. Attached are additional detailed comments regarding these and other concerns:

Monitoring and Adaptive Management Plan: EPA appreciates the Corps recognizing the importance of developing a monitoring and adaptive management plan. We think the Mitigation, Monitoring and Adaptive Management Plan (MMAMP) as outlined in Appendix P provides a strong basis to build off of; however, we think the MMAMP should be more detailed and inclusive of the ICT post-FEIS. Given the long term uncertainty related to project impacts especially to wetland impacts and water quality (DO and salinity) impacts, EPA recommends the Corps, in mutual collaboration with the Interagency Coordination Team (ICT), develop a MMAMP that provides a solid framework for establishing pre, during and post-construction monitoring plans (to include schedules, frequencies, data parameters and placement), provides for data reporting (both routine and performance related), sets quantifiable performance or success criteria for both impacts and mitigation, and establishes a corrective action plan (CAP). Additionally, the MMAMP should establish continued collaboration with the ICT post-FEIS and post-construction. For NEPA disclosure, EPA thinks the MMAMP should clearly be outlined in

the FEIS. Further, EPA recommends the Corps consider using the monitoring and adaptive management plans outlined in Jax Harbor and SHEP as a foundation to build upon.

Duration of Post-Construction Monitoring: EPA understands that the Corps proposes to conduct post-construction monitoring for wetlands impacts twice (2nd and 4th year) and for water quality (DO and salinity) annually for 5 years. The Corps in Savannah and Jacksonville recognized the uncertain nature of deepening projects and will conduct 10 years of post-construction monitoring for their respective projects, which was reflected in the FEISs issued for those projects. Given the uncertainty of impacts on both wetlands and water quality, EPA strongly recommends the Corps expand post-construction monitoring for 10 years and document this within the FEIS.

Wetland Mitigation: Regarding wetlands mitigation, EPA has concerns related to the selected mitigation option of acquiring lands to augment the Francis Marion National Forest. There is not enough information in the DEIS to establish whether this preservation option is functionally equivalent (as required by the Mitigation Rule) to the impacted wetlands. The information in the DEIS doesn't adequately demonstrate the delineation between the upland forests from the forested wetlands and that upland forest acres would be improperly counted toward mitigation credits. Additionally, other mitigation options were eliminated (Ashley River Restoration site, Tuxbury Horse Trail Restoration site and the Cainhoy Plantation site) without adequate analysis and coordination with the ICT. The Corps also didn't adequately evaluate the mitigation options using the compensatory mitigation hierarchy outlined in the Mitigation Rule. EPA recommends the Corps better detail the mitigation plans (especially the selected mitigation option) and commit to continued collaboration with the ICT to establish a better defined and robust mitigation plan.

Air Quality: EPA has concerns regarding the lack of information related to the potential impacts of near-source air toxic exposures (e.g., Sources within 1,500 feet) to sensitive populations (e.g., the old, young and infirmed). EPA also strongly recommends that the Corps and SPA consider 5 years of air toxics monitoring following the completion of the harboring deepening project to ensure that the project assumptions are accurate and increases in port growth or changes in port operations are not having a potentially significant impact on nearby sensitive populations. We are also concerned with the lack of discussion regarding port operations (especially terminal operations) impacts to air quality. EPA understands the SPA has initiated several green initiatives that potentially could reduce air quality impacts and EPA recommends the Corps disclose this information within the FEIS. Additionally, the Corps should describe any potential opportunity for air quality efforts associated with this proposed project in the FEIS.

Environmental Justice (EJ): EPA is concerned that the EJ analysis doesn't adequately identify EJ communities potentially impacted by the proposed project nor does the EJ analysis address potential impacts associated with the proposed project. EPA recommends the Corps refine and expand the EJ analysis to ensure EJ communities are identified and potential impacts are disclosed in the FEIS. EPA is also concerned that the Corps did not sufficiently reach out to EJ communities and recommends that Corps conduct targeted outreach to EJ communities to solicit their feedback and include that feedback in the FEIS. EPA is committed to collaborating

with the Corps to ensure meaningful dialogue with the EJ communities is conducted and the EJ analysis informs the public and decision makers.

EPA rates this DEIS EC-2 that is we have environmental concerns and request additional information. Overall, EPA thinks most of these concerns can be resolved through continued collaboration with the Corps and ICT. Additionally, EPA is committed to provide continuing technical assistance to the Corps to address these issues as the project moves forward. Given the above concerns, EPA requests an opportunity to review the preliminary draft FEIS before release of the FEIS to ensure our concerns are fully addressed and would like to follow up with you at your earliest convenience. Additionally, EPA requests that any mitigation commitments and the MMAMP be documented in the Record of Decision (ROD) and/or Chief's Report.

Please contact me at 404-562-9611 or my staff, Jamie Higgins at (404) 562-9681 or Larry Gissentanna at (404) 562-8248, if you want to discuss our comments.

Sincerely,

A handwritten signature in dark ink, appearing to read "Heinz Mueller", with a stylized, cursive script.

Heinz J. Mueller, Chief
NEPA Program Office
Office of Environmental Accountability

**Charleston Harbor Post 45
Draft EIS
US EPA Detailed Comments**

1. Mitigation, Monitoring and Adaptive Management Plan (MMAMP) (Appendix P):

a. General: Overall, the MMAMP should be more holistic since the plan encompasses monitoring and mitigation for several cross program areas. Given the uncertainty related to project impacts especially to wetland impacts and water quality (DO and salinity) impacts, EPA recommends the Corps develop a robust MMAMP. EPA thinks the current MMAMP is not as comprehensive or detailed as other recent Corps deepening projects such as Jacksonville Harbor Deepening Final Integrated General Re-evaluation Report II and Supplemental Environmental Impact Statement, Feb 2014 (Jax Harbor) and the Savannah Harbor Expansion Project Environmental Impact Statement, November 2010 (SHEP). For example, in the case of SHEP (Appendix D, 9 Adaptive Management-Decision Making Process, pg 29), the Corps developed a detailed decision making process, which clearly detailed a framework that established an interagency, interdisciplinary resource agency team to review documents, outlined the schedule for conducting monitoring, outlined decision (performance) criteria, detailed specific time frames for reporting of monitoring and other data that would be reported to the resource agencies and discussed the possible adaptive management features. Also, refer to Jax Harbor Corrective Action Plan (Appendix E, pg 73). EPA recommends the Corps continue to collaborate with the Interagency Coordination Team (ICT) to develop a mutually agreed MMAMP (for inclusion in the FEIS) that establishes a framework for pre, during and post-construction monitoring plan (to include schedules, frequencies, data parameters and placement), data reporting (both routine and performance related), determines performance or success criteria, establishes a corrective action plan (CAP) (includes decision or corrective action plan flow chart and ICT feedback mechanism). Additionally, EPA requests the Corps memorialize mitigation, monitoring and adaptive management commitments within the ROD and/or Chief's Report. Specific concerns regarding the MMAMP are listed below:

b. Coordination with Resource Agencies (ICT): EPA is concerned that the MMAMP was developed without input from the resource agencies (ICT). EPA feels it is important to have meaningful dialogue between resource agencies and the Corps post-FEIS and post-construction to ensure corrective action measures are in place to ensure future (post-construction) DO levels do not exceed state water quality standards or degrade aquatic resources. Additionally, continued discussions post FEIS are needed to ensure corrective action is appropriately taken should wetlands and water quality (DO and salinity) impacts exceed model predictions. The Corps does discuss briefly throughout the MMAMP coordination with the resource agencies, but the coordination of monitoring results with resource agencies are not discussed. On page 38, the Corps discusses establishing a monitoring protocol in conjunction with SCDHEC and other agencies. Who are the other agencies? Another example is a discussion on page 40 regarding establishing new monitoring gauges, but doesn't mention any specific coordination of placement or monitoring parameters of these monitors with any resource agencies. Will the Corps take the results of the monitoring and mutually and collaboratively work with the resource agencies to develop adaptive management measures to ensure performance criteria are met? Also, will the Corps coordinate with the resource agencies (ICT) regarding wetland and water quality

mitigation performance (success or failure)?EPA recommends the Corps collaborate mutually with the resource agencies (ICT) to develop a communication and coordination structure for monitoring location, monitoring and mitigation results/data, adaptive management feedback and corrective action planning, reporting details and schedules.

c. Monitoring:

1. Post-Construction Monitoring Commitments: The Corps proposes post-construction vegetation monitoring for wetlands impacts twice in years 2 and 4 (pg 37) and 5 years of post-construction monitoring for water quality (salinity and DO) (pg 42). EPA is concerned that 5 years of monitoring is insufficient to ensure DO water quality standards are met. Additionally, EPA thinks 4 years is insufficient to fully establish the project's salinity related impacts to wetlands. Given the uncertainty associated with upstream salinity migration, EPA recommends the Corps continue monitoring at least 10 years post-construction. The Charleston District recognizes the slow rate of wetlands conversion within the DEIS by stating, "The impacts are indirect and would not be immediate because the potential salt stress would slowly change the community structure."(Main report, pg 5-32) Both SHEP and Jax Harbor commit to 10 years of post-construction monitoring. EPA strongly encourages the Corps to establish continued collaboration (post-FEIS) with the current ICT by implementing a robust CAP (similar to those developed for Jax Harbor and SHEP) to be included within the FEIS.

2. Monitoring Schedule. EPA is concerned with the lack of consistency and structure in developing monitoring schedules. The Corps does discuss monitoring throughout Appendix P, but isn't consistent with how they will schedule or implement monitoring. For example, on page 36, the Corps discusses anticipating monitoring, but does not disclose the frequency, schedule or parameters to be measured. Another example is page 35 (5.2.1 Mitigation Monitoring Plan) for wetlands mitigation monitoring, where the Corps states:

"Two types of monitoring will take place to meet these objectives. The first is characterization of the percent change in the vegetative community. The second is verification of the salinity isopleth changes in the harbor."

When will the Corps conduct this monitoring and what will be the frequency? The Corps does explain that they will coordinate with resource agencies and that "additional regulatory and consultation requirements/monitoring may be needed." However, the Corps doesn't explain how this process will work. EPA recommends the Corps more systematically and holistically develop a monitoring protocol and schedule that is mutually agreed upon by the resource agencies and reflected within the FEIS.

3. Monitoring Details: EPA is concerned with the lack of detail regarding the monitoring data to be collected. EPA recommends the Corps proactively engage the ICT in determining the appropriate field data to be collected, which would be reflected in the FEIS. EPA encourages the Corps to refer to Jax Harbor (Appendix E, pg 75-78) as an example to build upon.

d. Success Criteria. EPA is concerned with the lack of performance or success criteria in the MMAMP. Success or performance criteria are necessary in order to determine when corrective

action is necessary, which then should trigger the notification of the resource agencies (ICT) and initiation of CAP measures. The Corps does list success criteria for Hardbottom Habitat plans (pg 34), but doesn't list a success criteria for other mitigation plans (water quality or wetlands). EPA encourages the Corps to work collaboratively with the ICT to develop appropriate success criteria for each proposed mitigation (to include DO and salinity) and disclose the success criteria in the FEIS.

e. Adaptive Management Plan/Corrective Action Plan: EPA is concerned regarding the lack of detail in the current MMAMP. The current MMAMP does not follow the adaptive management process of Predict-Mitigate-Implement-Monitor-Adapt as suggested by CEQ (NEPA Task Force Report to the Council on Environmental Quality: Modernizing NEPA Implementation, Sept 2003). The current MMAMP doesn't have a cohesive approach to ensure monitoring data meet a pre-determined performance criteria and, if they do not, there are adaptive management procedures in place to ensure remedial or corrective actions are accomplished. Both the Jacksonville and Savannah Districts recognized the high degree of uncertainty related to increases of salinity and decreases of DO associated with Jax Harbor and SHEP impacts and addressed these uncertainties within their corrective action plans (CAPs) by establishing a system of reporting information to decision makers and the interagency teams within the FEIS. In the case of SHEP, the Corps committed to producing an annual report for interagency coordination. EPA recommends the Corps develop a CAP that includes a decision flow chart (similar to Jax Harbor, Appendix E, pg 91) that displays the corrective actions taken when performance criteria are not met. Further, EPA recommends the Corps build off the Jacksonville and Savannah District CAPs and refer to SHEP (Appendix D, 9 Adaptive Management-Decision Making Process, pg 29) and Jax Harbor (Appendix E, 6.6 Corrective Action Plan, pg 73).

2. Wetland Avoidance, Minimization and Mitigation:

a. Avoidance, Minimization and Mitigation Analysis: EPA has many concerns related to the evaluation of the various mitigation options as presented in the DEIS. There is no explanation as to the methodology used in evaluating various mitigation options or compliance with the Section 404(b)(1) Guidelines concerning avoidance and minimization. The Corps has recognized the importance of properly evaluating impacts and mitigation options and discusses mitigation evaluations in Engineering Regulation (ER) 1105-2-100, Appendix C, C-3(12), page C-5, which states that avoidance, minimization and mitigation must include the following:

- "a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e) Compensating for the impact by replacing or providing substitute resources or environments."

The DEIS does not address any of the aforementioned statements, especially how the Corps has avoided or minimized impacts. Additionally, ER 1105-2-100, Appendix C, C-3(13), page C-6, requires the establishment of mitigation planning objectives.

“Mitigation planning objectives are clearly written statements that prescribe specific actions to be taken to avoid and minimize adverse impacts, and identifies specific amounts (units of measurement, e.g., habitat units) of compensation required to replace or substitute for remaining, significant unavoidable losses.”

EPA recommends that for each mitigation (wetlands, DO and Salinity) that the Corps outline the planning objectives as required by ER 1105-2-100 and that the planning objectives be coordinated with the ICT, the CAP should support these objectives and reflected in the FEIS.

b. Selected Mitigation Option: EPA has many questions and concerns regarding the selected mitigation option especially since the selected mitigation option (or any other mitigation options) were not presented to the ICT before finalization of the DEIS. The Corps has not properly established that the selected mitigation option is functionally equivalent to the impacted wetlands nor has the Corps coordinated ICT to solicit feedback on whether the selected mitigation option is appropriate to offset the project wetlands impacts. EPA is also concerned that mitigation options were eliminated without appropriate evaluation and without coordination from the ICT. We are also concerned that the Corps has not demonstrated the functional equivalency of the selected mitigation option in relationship to the impacted impacts. Additionally, the Corps does not discuss contingency mitigation plans should the proposed land acquisition fall through. Below are our specific concerns:

1. On page 36, the Corps states, “The preservation sites will not require monitoring, as they will be conveyed to the USFS for perpetuity.” Will there be any real estate mechanisms associated with these preservation properties (such as conservation easements) placed on the property to ensure the property is not developed or timbered or used in a manner inappropriate for wetland preservation purposes? Also, what agency (USFS, Corps, or SPA) will ensure the property is set aside for preservation and what legally binding agreement ensures this will happen? EPA recommends the FEIS better explain the legal mechanisms that will place the property in preservation and ensure the property is maintained as wetlands. EPA believes monitoring of these preservation sites are important to ensure land use activities (for example, construction activities, timber harvesting or other forest activities) are not impacting the proposed mitigation site. Additionally, EPA encourages the Corps to collaborate with EPA and the ICT to mutually establish a framework that outlines the frequency of monitoring of the preservation site and to document this monitoring schedule/time frame within the FEIS. EPA also recommends the FEIS more fully describe this option as the selected mitigation option.

2. On page 11 (2.5.3 US Forest Service Land Acquisition), the Corps discusses a preservation mitigation option that the Corps and/or SC Port Authority would acquire land to augment the Francis Marion National Forest, which has been identified as the selected mitigation option. The DEIS states, “The riparian areas and adjacent uplands are primarily pinelands or savannah. Many of these uplands were historical longleaf areas...The parcels lie in proximity to one of the largest remaining expanses of longleaf pine...” EPA appreciates that these upland forests are

valuable, but are these parcels functionally equivalent to the impacted wetlands? However, this narrative doesn't discuss the unique characteristics and qualities of the forested wetlands nor compare these forested wetlands to the impacted wetlands. EPA recommends the Corps better describe the unique characteristics of the forested wetlands in relationship to the impacted wetlands, and explain what compensation ratio will be needed to achieve functional equivalency. Additionally, EPA recommends the Corps better demonstrate functional equivalency of the selected preservation mitigation option as compared to the impacted wetlands. We are concerned that the information in the DEIS doesn't adequately demonstrate the delineation between the upland forests from the forested wetlands and that upland forests acres would be improperly counted toward mitigation credits. The narrative also does not clarify the acreage of upland forests versus forested wetlands; however, Table 5 on page 18 does outline the number of acreage. EPA recommends the Corps discuss the acreage numbers in the narrative and refer to Table 5 so as to eliminate any confusion.

3. On page 36, (5.2.1 Mitigation Monitoring Plan), the Corps states, "as monitoring progresses and is examined by USACE and the resource agencies, additional regulatory and consultation requirements/monitoring may be needed. There are also opportunities for additional efficiencies to be gained by utilizing/coordinating with newly established monitoring efforts." EPA concurs with the need for continued monitoring, but requests the Corps collaborate with the ICT to mutually establish a framework that outlines monitoring schedules and timeframes, reporting requirements and mechanisms and corrective action approaches before finalizing the FEIS. This updated mitigation plan and monitoring/adaptive management plan should also be included in the FEIS (See Comment #1).

c. Mitigation Options Eliminated from Further Consideration:

1. On page 9 (2.5.1.1 Ashley River Restoration Sites (NOAA identified), the Corps states, "At the present time, the extensive amount of time and expense to assess the feasibility and cost for use of these sites preclude consideration of these sites and this option from further analysis." The projected costs of the Ashley River Restoration Site is \$4,705,615 (Table 3, pg 9), which is only .0092% of the projected total project costs for Post 45 (i.e., \$509,260,000.) What is the Corps policy regarding mitigation costs versus total project costs? If the costs of the mitigation goes against Corps policy, then the Corps should disclose this information in the FEIS. EPA recommends the Corps disclose this information and fully discuss this in regards to rationale for eliminating this mitigation option. What methodology was used to determine the potential restoration "lift from this site? What does the cost per credit "lift" look like? EPA recommends the FEIS better describe the methodology for determining the functional lift of the restoration as compared to wetland losses, which can be graphically displayed. EPA also requests that the Corps further consider this as a viable option for mitigation especially since it follows the Mitigation Rule hierarchy of restoration over preservation.

2. On page 10 (2.5.1.2 Tuxbury Horse Trail Restoration) states, "Preliminary UMAM results for this alternative were not conducive to continued consideration of this option as compensatory mitigation for projected wetland functional losses resulting from the proposed project because the functional lift was not equivalent to the functional loss and the option would only restore hydrologic connectivity to existing wetlands." There is no data within the DEIS that shows the

functional lift of this mitigation option. EPA recommends that the FEIS disclose the data that demonstrates that this restoration option does not provide enough functional lift to replace wetland losses.

3. On page 12 (2.5.4 Cainhoy Plantation Protection), the Corps discusses using the Cainhoy Plantation property as a possible preservation mitigation option. The property is described as, "2500 acres of healthy, mature longleaf pine with extensive, intact freshwater wetland systems interspersed with uplands and is most ecologically significant portion of the property." However, the DEIS doesn't delineate the acreage of upland forest (longleaf pine) versus freshwater wetlands. Additionally, the Corps states that this mitigation option was eliminated because it would be expensive relative to other options. However, the Corps doesn't explain how expensive this option would be. Additionally, in Table 4 (page 14), the Corps has not identified the plan costs or costs/acre. EPA recommends in the FEIS the Corps clarify the amount of upland forested wetlands versus forested wetland and describe the costs associated with this mitigation option. The Corps should also discuss what compensation ratio will be needed to achieve functional equivalency between the selected mitigation option and the impacted wetlands. EPA also recommends the Corps better describe their rationale for eliminating this mitigation option for further consideration.

d. Mitigation Outputs:

1. On page 15, Table 4, the Corps outlines the mitigation outputs, plan costs and costs/acre. However, the USFS Tracts row is incomplete. For "Plan Outputs Acres", the USFS Tract option has listed "Various" and the plan cost is blank. Additionally, the Cainhoy Plantation option has blanks in the "Plan Costs" and "Costs/Acre" column. How can the Corps determine if the USFS mitigation option is viable if the output acres has not been determined, especially since this is the selected mitigation option? How can the Corps calculate the costs per acre when the wetland acres have not been identified? Additionally, how can the Corps eliminate the Cainhoy Plantation option without identifying the costs? In the case of the USFS Tract option, EPA is concerned that the mitigation proposed will not match the projected wetland losses. EPA appreciates the need to not disclose property location so as to maintain associated property costs; however, more details should be disclosed in the FEIS. EPA also recommends that the FEIS more fully describe the estimated amount of acreage output for this mitigation option and identify an approximate project cost.

2. On page 16, Table 5, the Corps discusses the cost per unit acre for mitigation alternatives. The table attempts to graphically describe the reasons for the USFS Tracts being selected as the "Best Buy" alternative. The table lists the mitigation costs, but does not list the mitigation acres. What methodology was used to determine this incremental analysis? Also, how does "restoration" option acreage compare to "preservation" options? EPA recommends in the FEIS that the Corps update the table to reflect not only the mitigation costs, but also the estimated acres of each mitigation option.

e. Uniform Mitigation Assessment Method (UMAM):

1. On page 16, the Corps states, “When authorization and funding becomes available USACE will assess available properties and re-run the UMAM analysis for the proposed parcel. Results will be coordinated again with resource agencies to ensure the assumptions in the UMAM are appropriate and meet the environmental commitments of the project.” EPA recommends that the Corps re-run the UMAM analysis for the proposed selected mitigation option and coordinate with the resource agencies (ICT) before finalizing the FEIS. Additionally, EPA recommends an updated UMAM analysis be included within the FEIS. Also, please see Comment #1 regarding Monitoring and Adaptive Management.

2. The EPA has concerns on how the mitigation sites were scored using UMAM in Attachment 1 found in Appendix P. It is unclear how the mitigation sites presently score a 6 and by preserving them they score a 9. The EPA does not understand how preservation can improve the score by 50%. An improvement of this magnitude would seem to be reserved for restoration of a system. Further, if the current wetlands only score 6, it is unclear if the wetlands are of sufficient quality to be deemed preservation worthy. Within the 2008 Mitigation Rule, preservation as compensatory mitigation may be authorized, but the Rule sets out five very specific requirements that must be met before preservation will be considered. 33 CFR §332.3(h). These requirements are:

- 1) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;
- 2) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available;
- 3) Preservation is determined by the district engineer to be appropriate and practicable;
- 4) The resources are under threat of destruction or adverse modifications; and
- 5) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).

f. Vegetation Monitoring: On page 37, (5.2.2 Vegetation Monitoring) the Corps states, “Bi-annual sampling would be conducted, and would occur during the beginning portion of the growing season...”... As stated in previous comments (Comment #1b), EPA recommends sampling data be coordinated with the ICT (resource agencies) either after receiving sampling results or in an annual report. Also, the Corps states that sampling will continue “Approximately 2 and 4 years after construction of the project...”. The Corps does commit to coordinating information with the resource agencies, but doesn’t specifically discuss the mechanism or timing of reporting this information. As previously noted (Comment #1b), EPA recommends the Corps commit to monitoring for 10 years post construction (as did Savannah and Jacksonville District). Further in this section, the Corps states, “If the results are significantly greater...additional mitigation sites will be identified to compensate for those unaccounted for impacts. The UMAM will be used to determine the amount of adaptive management mitigation needed.” What will be the process for determining the amount of mitigation and will this information be shared with the resource agencies? EPA is concerned that the adaptive management mitigation will not be

coordinated with the resource agencies. As previously stated (Comment #1), EPA strongly encourages the Corps to continue collaborating with the resource agencies through the ICT to mutually agree upon an appropriate monitoring and adaptive management plan framework before finalizing the FEIS.

g. Wetlands Adaptive Management: On page 43, (5.5 Adaptive Management for Increased Wetland Impacts resulting from Salinity Intrusion), the Corps states, “Adaptive management will be coordinated with environmental resource agencies to ensure compliance with environmental commitments of the project.” EPA appreciates that the adaptive management will be coordinated with the resource agencies; however, the Corps doesn’t define how that process will work. What is the performance or success criteria that identifies when wetland impacts have exceeded mitigation? Who determines when the salinity intrusion has requires additional mitigation? What resource agencies will be notified? Additionally, EPA recommends that the Corps disclose possible contingency restoration or preservation alternatives and coordinate with the ICT to assure these contingency alternatives are appropriate. EPA also recommends the Corps further collaborate with the ICT to mutually agree upon appropriate mitigation options (see Comment #1).

3. Environmental Justice: EPA is concerned with the methodology used to identify EJ communities and recommends the Corps collaborate with EPA to expand the current EJ analysis in the FEIS. EPA requests a conference call to discuss next steps and ways to improve the EJ analysis before the release of the FEIS. Below are our comments:

a. Identification of Minority and Low-Income Populations: In the DEIS, minority and low-income populations are identified by comparing a conglomeration of all geographic units of analysis in the affected area against the Tri-County region (Berkely, Dorchester and Charleston Counties). This approach is inconsistent with the Corps’ past approach to identifying minority and low-income populations in the North Charleston area (Charleston Naval Complex (CNC), Proposed Construction of a Marine Container Terminal, Cooper River Environmental Impact Statement (Naval Complex EIS), pg. 4-43).

1. EPA recommends that the Corps use the Naval Complex EIS EJ analysis as a model to build upon, since this approach complies with the intent of EO 12898 and the CEQ’s *Environmental Justice Guidance under the National Environmental Policy Act*, 1997 (CEQ EJ Guidance). Listed below is the method used for identifying minority and low-income populations within the Naval Complex EIS:

a. Step 1: *Calculation of Minority or Low-income Populations* – Census information was collected for each block group in the study area. From these raw numbers, the percentage of persons who are labeled minority and persons below the poverty level were determined. (Naval Complex EIS p. 4-43).

b. Step 2: *Calculation to Determine if Environmental Justice Threshold is Met* – The percentages of minority and low-income populations in each block group were compared to the relevant percentages in Charleston County and the state of South Carolina. Once the baseline

minority and low-income populations were determined for comparison purposes, specific block groups that met the environmental justice threshold were identified. (*Id.*).

2. The Naval Complex EIS analysis is consistent with the CEQ EJ Guidance in that it identified minority populations when “either: the minority population of the affected area exceeds 50 percent, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.” (*Id.*). The Naval Complex EIS further relied on CEQ EJ Guidance to define low-income populations as the percent of individuals below the poverty guidelines. (*Id.*).

3. CEQ’s EJ Guidance additionally states “the selection of the appropriate unit of geographic analysis may be a governing body’s jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population (CEQ EJ Guidance pg 26). EPA notes that the DEIS acknowledges that “Census tracts 34, 55 and 54 contain a high percentage of minorities (80.6%, 89.7% and 74.3%, respectively), as well as a high percentage below the poverty level (23.9%, 54.0% and 30.2%, respectively). These census tracts, located within North Charleston, are identified low-income and minority communities and neighborhoods.” (pg 5-64).

a. Combining all the units of analysis in the affected environment clearly dilutes the minority and low-income populations concentrated in the North Charleston area. Using larger geographic units of analysis (census tracts rather than block groups) also dilutes the presence of minority and low-income populations. These practices are inconsistent with CEQ’s EJ Guidance and past practice by the Corps in the North Charleston area (Naval Complex EIS).

b. EPA recommends the Corps refer to CEQ’s Guidance when updating the EJ analysis for the FEIS. EPA recommends that the FEIS should analyze the existence of minority and low-income populations using block groups as the appropriate geographic unit of analysis. The percentage of minority and low-income populations in each block group in the affected environment should then be compared against county and state data. If any block group either exceeds 50% minority population or is meaningfully greater than the county or state data, a minority or low-income population should be identified. If additional units of analysis are used in the demographic table (e.g. national data) then the information should be provided consistently for both low-income and minority populations (where available).

4. EPA is concerned with the current configuration of the EJ study area for this proposed project as outlined in the DEIS because it does not fully encompass the areas of impacts. EPA thinks the EJ study area should also include the area around the project terminal facilities. EPA understands the Corps’ rationale that the dredging activities will not increase the ports terminal operations; however, EPA thinks the Corps needs to disclose these activities because the port terminal operations are directly linked to the proposed project. We believe the proposed project’s port deepening will effect and modify the current operations at the port. EPA

recommends the Corps better explain and clarify these operations and expand the EJ study area to include the area adjacent to the port terminal facilities within the DEIS.

5. EPA appreciates that EJ maps are included in the DEIS. While the maps provided are good for screening purposes, it would be more helpful to include visuals that show the affected environment, including minority and low-income populations/communities at the appropriate geographical unit of analysis. This information can help inform the public and the Corps' outreach and engagement activities related to EJ.

b. Outreach and Public Engagement

1. On page 2-121, (2.4.23 Socioeconomic Section), the DEIS does not discuss efforts to meaningfully engage low-income and minority communities in the decision-making process. It also does not identify or summarize any comments or concerns that have been obtained as a result of outreach and public engagement activities with the community related to environmental justice and the proposed action. EPA recommends that the Corps discuss in the FEIS efforts to meaningfully engage low-income and minority populations in the decision-making process. Particular focus may include block groups and census tracts that have high minority and low-income populations, and/or that are located in close proximity to port-related infrastructure. Meaningful engagement with the residents and stakeholders (e.g., community leaders, advocacy groups, and community development groups) of potentially affected low-income and minority communities should encompass adaptive and innovative approaches to both *public outreach* (i.e. disseminating relevant information) and public participation (i.e. receiving community input).

2. EPA is concerned with the lack of community engagement as described in the DEIS and recommends the Corps establish a community advisory board. Effectively and meaningfully engaging the community can play an important role in leveraging the Corps' ability to collect data used to inform the decision-making process. Given that the port is anticipated to continue to grow (with and without the project) and several projects (i.e. New Navy Terminal, Palmetto Railways Intermodal Container Transfer Facility) are anticipated to be located within the vicinity of the port, convening an ongoing community advisory group comprised of residents and stakeholders of potentially affected overburdened and/or low-income and minority communities can enhance the SPA's, the Corps', and the communities' understanding of project benefits and impacts. This advisory board also serves as a valuable public participation and outreach tool, designed to inform the community of the Port's progress and address any questions or recommendations that the surrounding community may have. Additionally, during the SHEP EIS process, the Georgia Port Authority saw the value of establishing a community advisory group and committed to actively engaging the community through that group.

c. Project Impacts: The DEIS indicates that growth is anticipated to continue within the vicinity of the Port. It also provides some analysis based on assumptions about future project impacts (i.e. air) and provides no analysis in other areas like noise. Although we understand the Corps' port growth rationale from previous discussions, we believe the channel deepening will result in operational changes at the port terminals that should be better addressed in the EJ analysis. The DEIS includes a statement indicating there are no disproportionate impacts. EPA recommends that the Corps complete the assessment of project impacts including impacts from port terminal operations (i.e. heavy truck and trains). EPA recommends the Corps re-examine

these conclusions after completion of the recommended updated EJ assessment. The FEIS should include the definition of disproportionate impacts that was cited in the Naval Complex EIS (predominantly borne by the EJ community, etc.) and also the factors listed in CEQ's EJ Guidance on pg 26-27 (e.g. experiencing cumulative and multiple impacts, etc).

d. Monitoring: EPA also recommends that a pre and post construction monitoring program (i.e. localized air, traffic, and/or noise) be implemented to assure communities living in close proximity to the harbor deepening activities, terminals, and transportation facilities that they will not experience increased localized impacts (direct, indirect, cumulative) as a result of the proposed project and growth within the vicinity of the Port.

4. Water Quality:

a. EPA is concerned with the uncertainty associated with the project's impacts to the DO and related impacts to the TMDL. EPA strongly encourages a robust MMAMP as described in Comment #1 to ensure water quality standards are met. As discussed in Comment #1, EPA believes a detailed MMAMP would reduce the risks associated with these uncertainties.

b. On page 5-22 of the Main Report, (5.4.7.4 Salinity), the Corps states, "The USACE will continue the salinity alert monitoring and the protection of Bushy Park Reservoir." In the next paragraph, the Corps states, "...it is likely that the proposed project would increase the number of salinity alerts for the Bushy Park Reservoir." Has the Corps coordinated with the owner/operators of the Bushy Park Reservoir? Should salinity reach the Bushy Park Reservoir, what corrective action measures will the Corps or the SPA take? There is no mention of monitoring or adaptive management corrective actions for Bushy Park Reservoir discussed in Appendix P. EPA recommends that in the FEIS the Corps better describe any coordination with the owner/operators of the Reservoir and discuss in more detail the salinity monitoring and adaptive management corrective action measures for the Reservoir. Additionally, EPA recommends the Corps add the salinity monitoring and adaptive management for Reservoir in Appendix P.

5. Air Quality: The Charleston Harbor Post 45 Draft Environmental Impact Statement (DEIS) includes detailed discussions of air quality impacts in Sections 2.4.17 and 5.4.17, and Appendix N (Air Emission Inventory and Assessment for the Charleston Harbor Navigation Improvement Project). EPA published information in February 2012 about air quality in the Port of Charleston project area in its "Latest Findings on National Air Quality, Status and Trends Through 2010". EPA has determined that Charleston's 2010 Ozone level ranged from 0.060 to 0.075 ppm (4th highest daily maximum 8-hour concentration) and that range is generally below the current ozone standard of 0.075 ppm. The DEIS states that the proposed project is in compliance with Section 176 I of the Clean Air Act (CAA), as amended. Air quality in the project area (Charleston, Berkeley, and Dorchester Counties, South Carolina) is designated as an attainment area. The project area has been designated by South Carolina as an attainment area for criteria pollutants, and the DEIS indicates that a [General] Conformity Determination is not required.

The EPA understands that the Corps proposed Charleston Harbor Post 45 project is expected to change the overall types of vessels arriving at the port. However, it is anticipated that without deepening, more, smaller and older vessels will be required to transport the same amount

of cargo that is expected to move through the port. The Corps expects that with harbor deepening, the total number of vessels decreases as newer larger capacity vessels will be able to operate more efficiently under the improved depth conditions. Project pollutant emissions including Nitrous oxides (NO_x), Carbon monoxide (CO), Hydrocarbons (HC), Particulate matter (PM 10 and 2.5 microns), Sulfur dioxide (SO₂), and Carbon dioxide (CO₂) for the Charleston Harbor area are shown in Table 5-10. The DEIS compared the estimates in Figures 5-17 and 5-18, and the Corps predicts that the No-Action (45/45 foot depth) emissions (in tons/year) are greater than the proposed project (52/48 foot-depth) emissions for all criteria pollutants and greenhouse gases (CO₂).

Under both the without (No-Action Alternative -45 foot depth) and with project conditions (-48, -50, and -52 foot depths alternatives), the Charleston Harbor SCSPA Terminals are expected to reach build-out capacity in 2037 when the total number of TEUs processed through the terminal reaches 4.2 million. That capacity is the maximum number of containers that could reasonably be processed through the SCSPA Terminals in a year. No increases in cargo are expected to occur as a result of the harbor deepening. As a result, the project would not affect the number of containers that move through the areas that surround the port. The economic benefits of the project are expected to result from the use of newer, larger, more cost-effective container ships, not an increase in the number of containers. The DEIS states that air emissions (including criteria pollutants, air toxics and greenhouse gases) and vessel traffic would not be increased as a result of the proposed deepening. The DEIS further concludes: "Therefore, the proposed harbor deepening would have no significant adverse impacts on the air quality of the Port of Charleston".

Appendix N of the DEIS provides a detailed emissions inventory report and analyses for the proposed harbor deepening as well as some baseline emissions information. Table 6-24 includes the '2011 Total Emissions for all Vessels Calling at both SCSPA and non-SCSPA Terminals in the Port of Charleston'. Table 6-34 provides a summary of Air Toxic Emissions for the Port of Charleston – 2011. This table includes 28 hazardous air toxic compounds in tons/year of those most commonly associated with port operations and equipment. Table 7-5 includes the EPA's 2011 National Emissions Inventory (NEI) emissions in the project area. The estimates provided are footnoted by: "The forecasted number of vessels and the associated emissions do not consistently increase progressively through the Table 7-6. This is due to the fact that the range of alternatives forecasted includes multiple depths for two separate sets of segments".

The Corps' air toxic analysis, as well as projected Green House Gas (GHG) emissions, are described in additional sections of Appendix N. Table 7-4 provides the emissions for the non-SPA (private) terminals in the Port of Charleston for 2022, 2027, and 2031. In addition, the Corps' analysis also evaluated the port's emissions with other major emissions sources in and around the City of Charleston. These other major emission sources are included in Table 7-7, 'Major Air Emission Sources within the project area for 2011'. The DEIS indicates that for most air pollutants, the port sources in combination represent a very small percent of the regional air pollution emissions (e.g., approximately 3%).

Table 7-15 of Appendix N of the DEIS indicates that because air toxics are ratios of either VOC or PM₁₀, that the amount of air toxics discharged by the 17 terminals would be

greater for the No Action Alternative than for the deepened harbor. The Corps indicates that there are less air emissions in the deepened harbor because fewer larger vessels (more heavily loaded) would be needed to transport the 4.2 million TEUs than the existing No Action Alternative depth of -45 foot. Using 2011 data, the CORPS utilized EPA Region 5's Ann Arbor guidance in calculating regional air toxic emissions using ratios: "The quantity of air toxics were calculated using the air toxic ratios taken from the NMIM "SCC Toxics" database table, which was provided by US EPA, Office of Transportation and Air Quality Ann Arbor, Michigan. The Corps then multiplied these air toxic ratios by either the total VOC or PM10 emissions for each alternative. The results of these calculations are found in Appendix B (spreadsheet HAPs (Air Toxics)) tab".

Table 7-10 includes a comparison of hazardous air pollutants (HAPs) generated from the Total Port Emissions for the No-Action Alternative (-45 foot depth) and the LPP (-52/48 foot depth) alternative to the EPA 2011 NEI. This table predicts generally less or the same percent of emissions from the baseline condition to the proposed preferred alternative ('LPP') for the years 2022, 2027, 2032, and 2037 for six 'common' HAPs, including styrene, hexane, xylene, formaldehyde, benzene, acetaldehyde, and naphthalene. Similarly, GHG emissions using a comparative analysis shows that future CO2 emissions are less for the LPP than the No Action alternative. The DEIS concludes: "Therefore, over the 50 year life of the project (from 2022 to 2072) the proposed deepening of the harbor will not interfere with the area attainment and maintenance of the NAAQS under Section 110 of the Clean Air Act and NAAQS maintenance plan requirements".

Overall, the DEIS provided a detailed air quality emissions inventory and analysis and generally evaluated the issues of criteria pollutants, air toxics and GHG based upon current guidance. However, EPA has identified environmental concerns regarding the following issues:

a. In the Executive Summary, in the "Areas of Controversy and Unresolved Issues", it does not discuss EPA's past requests to conduct a screening level analysis of potential air pollution impacts on neighborhoods that might be affected by current or future port-related activities. EPA believes that this is an important environmental issue for this proposed project under the NEPA process. It should be noted that this is an unresolved issue. EPA recommends that the Corps and SPA re-consider the use of the air quality screening tool that EPA provided in its scoping comments on October 21, 2011.

b. On page 4-16, (4.3 Mitigation), the DEIS addresses mitigation, but does not discuss any air quality minimization or mitigation efforts associated with the proposed project. EPA understands the SPA is initiating many programs that will potentially reduce air quality impacts from port operations. As a part of NEPA disclosure, EPA strongly recommends that the Corps discuss these 'green' initiatives and any anticipated reductions in air pollutants in the FEIS.

c. Terminal Operations: EPA is concerned that the Corps did not specifically evaluate the proposed project's port operations for air quality impacts. Significantly larger container vessels may have an impact on temporal operations of the port (length of stay, container loading/unloading rate, queues, truck traffic, etc.) and these changes should be considered when analyzing the impacts of LPP and No Action. EPA recommends the CORPS better describe the

port operational changes and their potential impacts to air quality especially relating to air toxics and any localized impacts in the FEIS.

d. The DEIS does not discuss the potential impacts of near-source air toxic exposures (e.g., Sources within 1,500 feet) to sensitive populations (e.g., the old, young and infirmed) as per EPA's previous scoping comments. EPA recommends the Corps identify nursing homes, daycare facilities, schools, hospitals and other sensitive populations (preferably on a map) that are potentially near existing and major air toxic emission sources (i.e., 1,500 feet or less). Sensitive populations could also potentially be nearby low income and minority neighborhoods.

e. In Table 2-38, it is noted that baseline and projected emissions for the no action alternative for several future dates. EPA recommends emission estimates be included for the projected fleet at each of the same times in the future to allow comparisons among the alternatives at those future dates.

f. On page 35, (Section 6.10 Air Toxics (HAPs)), the DEIS addresses the emissions of air toxics for the port for the Year 2011. It is not clear whether these emission estimates include those from truck and rail transportation and distribution facilities. Total emissions are listed in Table 6-34. These estimates, in the absence of additional information on source locations, local scale concentrations in areas near the sources, and potential for adverse health effects, do not inform the decision. EPA recommends that the Corps more fully describe the impacts associated with port operations (i.e. vehicle, rail and vessel emissions).

g. EPA comprehends the Corps underlying assumptions for the proposed harbor deepening project and that ultimate increased efficiencies will potentially improve air quality in the Region in future years. However, as EPA has previously identified, potential air toxic effects are localized in nature and should be considered on sensitive populations with respect to time, distance and concentration. Therefore, EPA strongly recommends that the Corps and SPA consider 5 years of air toxics monitoring following the completion of the harboring deepening project to ensure that the project assumptions are accurate and increases in port growth or changes in port operations are not having a potentially significant impact on nearby sensitive populations.

6. Cumulative Impacts (Appendix O: Cumulative Impacts Analysis):

a. On page 5, (2.0 Historical Past Actions Described in Section 2.0), the Corps needs to more clearly discuss the water quality impacts of dams and other hydraulic alterations in the study area. For example, when discussing the Santee-to-Cooper Diversion, EPA recommends adding a summary on water quality impacts resulting from this historical project. (Most of this info is covered in detail in the proceeding sections.)

b. On page 8, (2.1.1.4), there is a discussion related to the Santee Cooper Hydroelectric Project. Are there any special conditions of the 401 certification that could be discussed? EPA recommends adding any water quality concerns related to this project and the status of the State issued 401 certification for the project.

c. When discussing the impacts of the proposed project on DO conditions in the Harbor and the TMDL the DEIS states on page 32, "Although the greatest cumulative impacts are estimated to be 0.14 mg/L, this is less than the 0.1499 mg/L allowed in practice." This is greater than the 0.1 mg/L DO depression that is identified as a trigger point for meeting SC anti-degradation requirements. EPA recommends the Corps provide additional discussion/clarification in the FEIS as to why the 0.14 mg/L modeled DO estimate does not trigger the anti-degradation requirements. The Corps should also provide a clearer discussion on what the Corps believes constitutes a significant impact to DO conditions.

d. EPA is concerned that there is not a list of all NPDES dischargers in the project area along with pollutant limits (or provided within the reference documents). For NEPA disclosure, EPA recommends the Corps list the NPDES permit holders and associated pollutant limits within Appendix O and discuss potential impacts associated with the proposed project.

e. On page 42, (4.4 Other Essential Fish Habitats), the Corps discusses the essential fish habitat, but there is no discussion on how indirect impacts from salinity changes may impact essential fish habitat. Additionally, EPA is concerned that the Section 4.2 Wetlands: Essential Fish Habitat section discussion does not include any details on how salinity shifts will impact fish species (movement and reproduction). EPA recommends including discussion in the FEIS related to the potential indirect impacts of salinity shifts/wetland functional shifts and how these changes may impact essential fish habitat.

f. On page 41, (4.5 Sediments), in Table 6 (pg 43), the average dredging rate unit in this table doesn't make sense. Should it be million CY per year or is this a typo? EPA recommends updating the table to be more readable. Additionally, EPA is concerned that there is a lack of discussion related to sediment toxicity. Did the Corps conduct any toxicity testing on sediment samples or were there previous studies that established the lack of contaminants in the sediment? The Corps indicates in sections 3.7.2 and 3.9 that sediment sampling was conducted, but this is not discussed in section 4.5. EPA recommends the Corps more clearly discuss any sediment toxicity testing in Section 4.5 and be consistent with sections 3.7.2 and 3.9. On page 4-10 (4.2.5 Disposal Area Modifications), EPA recommends the addition of another paragraph discussing the process for expansion of the ODMDS. Details related to development of the planned Environmental Assessment for expanding the site, review and coordination with federal, state, and local agencies, public comment opportunities, and EPA's rulemaking procedures are important to the overall project. A synopsis of EPA/Corps ocean dumping coordination is also needed.

g. On page 19, (3.0 Resources Not Likely to be Cumulatively Affected), the Corps states, "Based on currently available information, there are some resources that are not anticipated to experience measurable cumulative effects, although they may involve either direct or indirect effects (some of them *de minimus*) due to the proposed project." EPA is concerned that the Corps did not adequately address cumulative impacts associated with several areas especially as it relates to water quality, air quality, noise, and EJ communities. The Council on Environmental Quality's (CEQ) Cumulative Impacts Handbook (January 1997) addresses the issue of magnitude and states, "Situations can arise where an incremental effect that exceeds the threshold of concern for cumulative effects results, not from the proposed action, but from

reasonably foreseeable but still uncertain future actions.” (pg 43) For NEPA disclosure and transparency, EPA recommends the Corps expand their cumulative impacts analysis to consideration past, present and reasonable foreseeable impacts to environmental areas regardless of whether they are deemed “de minimus” by the Corps. Also, EPA recommends the Corps refer to CEQ’s Cumulative Impacts Handbook in preparing the cumulative impacts analysis for the FEIS.

7. Terminal Operations: EPA is concerned regarding the lack of detail and discussions regarding the current and future operations at the port terminals. EPA understands that the SPA has imitated many environmentally sustainable “green” activities and recommends the Corps include these activities within the FEIS. Of particular interest to the community (regardless of whether it is the Future Without Project (FWOP)/no action alternative or either action alternatives) are impacts associated with increase truck traffic and noise impacts; however, the DEIS doesn’t adequately disclose these cumulative impacts. EPA requests the Corps discuss environmentally sustainable initiatives and future impacts associated with terminal operations.

8. Community Outreach: EPA is concerned that the Corps has not discussed any future community outreach activities associated with the proposed project. Does the SPA currently conduct periodic outreach activities (such as status of dredging activities, changes in port terminal operations and announcing green initiatives) with the surrounding communities? If so, this should be discussed within the FEIS. If not, EPA recommends the Corps needs to discuss the rationale for SPA not conducting periodic community outreach activities and encourages SPA to develop a proactive community outreach plan.

9. Climate Change: EPA is concerned that the Corps hasn’t adequately addressed climate change impacts related to the proposed project. The Corps does address climate change related sea level rises specifically as it impacts salinity intrusion; however, there are other issues related to climate change such as increases in stronger storm events, more frequent and intense droughts, etc. For example, currently the Corps states that “...salinity alerts requiring increased freshwater releases from Pinopolis Dam to prevent salinity concentrations from rising in the inlet and the Back River (also known as the Bushy Park Reservoir, an important freshwater supply for Charleston Water Systems).” EPA is concerned that the Corps hasn’t considered increased and more intense droughts (related to climate change) and impacts to the storage within Pinopolis Dam, which could result in reduced releases from the dam that keeps the salinity wedge from impacting Bushy Park Reservoir. Has the Corps coordinated with the South Carolina Public Service Authority (owner/operator of the dam)? If so, EPA recommends the Corps disclose their feedback in the FEIS. EPA recommends the Corps better explain the impacts of climate change to the project.

10. Hazardous, Toxic and Radioactive Waste: On page 5-55, (5.4.18 Hazardous, Toxic, and Radioactive Waste), the Corps states, “Based upon the dredging history of the Charleston Harbor Federal Navigation Channel, the proposed project is not expected to encounter HTRW.” What is this history? Has the Corps conducted sediment sampling to determine whether hazardous wastes or substances are present in the sediment? Have there been previous studies or work that determined there is no HTRW? EPA recommends the Corps better describe their rationale for determining there is no HTRW and provide studies or data that demonstrates this.

11. Noise: On page 5-56 (5.4.19.4 Indirect impact of noise from port operations as a result of deepening the Harbor), the Corps states, "...there would be no increase in the amount of truck traffic from various terminals." On page 2-113 (2.4.19 Noise), the Corps discusses port operations noise impacts in general terms, but doesn't directly discuss noise impacts specific to Charleston Harbor or SPA port operations. Does SPA currently have a noise minimization program or have they implemented measures to reduce noise impacts to surrounding communities? EPA is concerned that the Corps is not disclosing noise impacts associated with port operations within Charleston Harbor. Has the SPA conducted noise studies? If so, information from these studies should be disclosed in the FEIS. EPA understands the Corps' rationale that truck traffic from the FWOP/no action alternative and the action alternatives would be unchanged; however, NEPA requires that federal agencies disclose impacts (need citation) regardless of whether there is a discernible difference between the action and no action alternatives. EPA recommends the Corps adequately disclose noise impacts for the current operations and the FWOP/TSP associated with the truck traffic, port operations and vessel traffic.

12. Ocean Dredge Material Disposal Site (ODMDS):

a. On page 2-36, the discussion regarding ODMDS says it is illustrated in Figure 2-14. There is no figure showing the current ODMDS in Figure 2014. EPA recommends the Corps include the current ODMDS layout in the FEIS. Additionally, on page 4-11, EPA recommends the Corps show how the proposed boundaries and berm layout are compared to present boundaries as well as the berm that is in place. It appears that the proposed berm layout would be on top of the current feature. EPA requests clarification.

b. On page 4-10 (4.2.5 Disposal Area Modifications), EPA recommends the addition of another paragraph discussing the process for expansion of the ODMDS. Details related to development of the planned Environmental Assessment for expanding the site, review and coordination with federal, state, and local agencies, public comment opportunities, and EPA's rulemaking procedures are important to the overall project. A synopsis of EPA/Corps ocean dumping coordination is also needed.